VERIFICATION REPORT
THE WORLD BANK

VERIFICATION OF THE
UKRHYDROENERGO (UHE) HYDROPOWER REHABILITATION PROJECT IN UKRAINE
PERIODIC FOR THE PERIOD 01/01/2011 – 31/12/2011

REPORT NO. UKRAINE-VER/0398/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0398/2011

VERIFICATION REPORT

Date of first issue:	Organizational unit:
01/06/2012	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
The World Bank	Javiere Freire Coloma

Summary:

Bureau Veritas Certification has made the periodic verification of the "UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine" project, Registration Reference Number UA1000226, project of The World Bank, located in Ukraine, and applying the JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the monitoring report against project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as described in the approved project design document and the determined changes occurred during project implementation. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 197 821 tonnes of CO_2 equivalent for the monitoring period from 01/01/2011 to 31/12/2011.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents.

Report No.:	Subject Group:	
UKRAINE-ver/0398/2011	JI	
Project title:		
"UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine"		
Work carried out by:		
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Work approved by:		
Ivan Sokolov – Operational Manager		
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Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

The World Bank has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine” (hereafter called “the project”) in Ukraine.

This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

1.2 Scope

The verification scope is defined as an independent and objective review of the project design document, the project’s baseline study, monitoring plan, monitoring report, and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Verification Team

The verification team consists of the following personnel:

Kateryna Zinevych Bureau Veritas Certification	Team Leader, Climate Change Verifier
Sergiy Kustovskyy Bureau Veritas Certification	Climate Change Verifier
Vladimir Kulish Bureau Veritas Certification	Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

Daniil Ukhanov
Bureau Veritas Certification Technical Specialist

2 METHODOLOGY

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a verification protocol was customized for the project, according to the version 01 of the Joint Implementation Determination and Verification Manual, issued by the Joint Implementation Supervisory Committee at its 19 meeting on 04/12/2009. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

- It organizes, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent verification process where the verifier will document how a particular requirement has been verified and the result of the verification.

The completed verification protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The Monitoring Report (MR) submitted by the World Bank and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report version(s) 1.0, 1.1, 1.2 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 24/04/2012 – 26/04/2012 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the World Bank and UkrGidroEnergo were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
UkrGidroEnergo	➢ Organizational structure ➢ Responsibilities and authorities ➢ Roles and responsibilities for data collection and processing ➢ Installation of equipment ➢ Data logging, archiving and reporting ➢ Metering equipment control ➢ Metering record keeping system, database ➢ IT management ➢ Training of personnel ➢ Quality management procedures and technology ➢ Internal audits and check-ups
The World Bank	➢ Baseline methodology ➢ Monitoring plan ➢ Monitoring report ➢ Excel spreadsheets

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team, in assessing the monitoring report and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;

(b) Clarification request (CL), requesting the project participants to provide additional information for the Verification Team to assess compliance with the monitoring plan;

(c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

The Verification Team will make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the verification.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

3 VERIFICATION CONCLUSIONS

In the following sections, the conclusions of the verification are stated.

The findings from the desk review of the original monitoring documents and the findings from interviews during the follow up visit are described in the Verification Protocol in Appendix A.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 02 Corrective Action Requests and 03 Clarification Requests.

The number between brackets at the end of each section corresponds to the DVM paragraph.

3.1 Remaining issues and FARs from previous verifications

No FARs were raised during previous verification.

3.2 Project approval by Parties involved (90-91)

The project obtained approval by the Host party (Ukraine) on 18/05/2007 (Letter of Approval issued by the Ministry of Environmental Protection of Ukraine), see References.

Written project approval by the Netherlands (sponsor party) has been issued by the DFP of the Party when submitting the first verification report, see References.

The above mentioned written approvals are unconditional.

No outstanding issues were raised as per project approval by the parties involved.

3.3 Project implementation (92-93)

The Project involves rehabilitation of 43 hydro units which are located on the Dnipro river and the Dnister river. The actual operation of the proposed project includes the replacement of hydraulic power, electro-technical and hydro-mechanical equipment such as gates, turbines, generators, excitation and governor systems, control, protection and automation systems, switchyard equipment and auxiliary equipment. The Project also includes works on hydraulic structures and installation of computer-aided dam safety monitoring systems.

The Project is not result in an increase in the reservoir area; the rehabilitated hydropower plants generate additional electricity without emitting GHG. This lead to the reduction of anthropogenic GHG emissions by displacing electricity produced by fossil fuel fired power plants.
Since technological equipment directly related to the project will no vary from the old equipment, no special training for the staff is required. New equipment maintenance is performed according to the schedule provided in the operation manuals established by the company in accordance with the sectoral norms. Usually routine maintenance is performed every year, while overhauls of main generating equipment performed every 6-7 years.
In terms of environmental benefits, the Project helps to reduce air pollution caused by the emission of SO_2 and NO_X by outdated thermal plants.
From the start of the Project to December 31, 2011, rehabilitation was completed on 24 hydro units at the Kyiv HPP, Kanyv HPP, Kremenchuk HPP, Dniprodzerzynsk HPP, Dnipro HPP and Kakhovka HPP. The names of the rehabilitated hydro units and the dates of completion of the rehabilitation are provided below.

Year/Plant Name	*2006 (HPU# - DD/MM)*	*2007 (HPU# - DD/MM)*	*2008 (HPU# - DD/MM)*	*2009 (HPU# - DD/MM)*	*2010 (HPU# - DD/MM)*	*2011 (HPU# - DD/MM)*
Kyiv HPP	-	HPU#19 - 16/12 HPU #10 - 29/09	-	HPU#11 -15/11 HPU#17 – 15/05 HPU#20 – 14/11	HPU#9 – 15/12	HPU #12 – 16/09
Kanyv HPP	-	HPU # 7 - 15/12 HPU # 5 - 01/10	-	HPU#22 – 25/05 HPU#24 – 30/06	HPU#10 – 03/09 HPU#21 – 31/01	HPU #23 – 16/01 HPU #11 – 02/04
Kremenchuk HPP	-	-	-	HPU#2 – 10/07	-	-
Dniprodzerzhynsk HPP	HPU #4 - 30/11	-	HPU#8 – 31/03	HPU#7 – 13/10	-	HPU #5 – 22/12
Dnipro HPP	-	-	-	HPU#15 – 23/07	-	-
Kakhovka HPP	-	HPU # 1 - 01/04	HPU#5 – 28/04	HPU#6 – 25/12	-	-

The identified areas of concern as to the project implementation, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 01, CL 01).

3.4 Compliance of the monitoring plan with the monitoring methodology (94-98)

The monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

For calculating the emission reductions, key factors influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating emission reductions are clearly identified, reliable and transparent.

Emission factors, including default emission factors, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 02, CL 02).

3.5 Revision of monitoring plan (99-100)

Not applicable.
The monitoring plan of the project was not revised.

3.6 Data management (101)

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures. These procedures are mentioned in the section "References" of this report.

The function of the monitoring equipment, including its calibration status, is in order.

The evidence and records used for the monitoring are maintained in a traceable manner.

The data collection and management system for the project is in accordance with the monitoring plan.

The identified areas of concern as to the data management, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CL 03).

3.7 Verification regarding programmes of activities (102-110)

Not applicable

4 VERIFICATION OPINION

Bureau Veritas Certification has performed periodic verification of the "UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine" in Ukraine, which applies the JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of the monitoring report against the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of the World Bank is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring indicated in the final PDD version 08. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 1.2 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as described in the approved project design document and the determined changes (described in the Verification Report by Bureau Veritas Certification No. UKRAINE-ver/0023/2008 dated 11/04/2011) occurred during project implementation. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Amount of emission reduction provided above as total for 2011 in the MR differs from the amount of emission reduction for the corresponding period predicted in the registered PDD (version 08, dated 04/02/2010). This difference can be explained by the fact that GHG emission reduction provided in the PDD for 2011 were estimated based on the statistic data of previous years, while GHG emission reduction provided in the MR was calculated based on the actual data provided by the enterprise. Another reason of this difference is the rehabilitation of only 24 of 34 planned HPUs was conducted.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2011 to 31/12/2011

Baseline emissions	:	197821	tonnes of CO2 equivalent
Project emissions	:	0	tonnes of CO2 equivalent
Emission Reductions	:	197821	tonnes of CO2 equivalent

5 REFERENCES

Category 1 Documents:
Documents provided by the World Bank that relate directly to the GHG components of the project.

/1/ Monitoring Report "UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine" version 1.0 dated 17 of April 2012
/2/ Monitoring Report "UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine" version 1.1 dated 25 of May 2012
/3/ Monitoring Report "UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine" version 1.2 dated 04 of June 2012
/4/ PDD "UkrHydroEnergo (UHE) hydropower rehabilitation project in Ukraine", version 08 dated 04/02/2010
/5/ Determination Report by SGS United Kingdom Ltd. No. JI.VAL.0040 "UkrHydroEnergo (UHE) hydropower rehabilitation project in Ukraine" dated 14/07/2010
/6/ Verification Report by Bureau Veritas Certification No. UKRAINE-ver/0023/2008 "UkrHydroEnergo (UHE) Hydropower Rehabilitation Project in Ukraine" dated 11/04/2011.
/7/ Letter of Approval # 5633/10/3-10 Issued by the Ministry of Environmental Protection of Ukraine, dated 18.05.2007
/8/ Declaration of Approval Issued by the Netherlands` Ministry of Economic Affairs dated 28.06.2007

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Photo. Dniprodzerzhynsk HPP. General view.
/2/ Protocol №644/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057582 dated 18.03.2008.
/3/ Protocol №639/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057592 dated 18.03.2008.
/4/ Protocol №645/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057619 dated 18.03.2008.
/5/ Protocol №709/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057594 dated 02.04.2008.
/6/ Protocol №711/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057607 dated 02.04.2008.
/7/ Protocol №706/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057605 dated 02.04.2008.

/8/ Protocol №643/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057581 dated 18.03.2008.
/9/ Protocol №641/05 of verification of active (reactive) energy meter EA05RAL-B-4 reg.№01057602 dated 18.03.2008.
/10/ Passport of pressure transformer JUMO reg. №929642-002.
/11/ Photo. Electronic database.
/12/ Form of water and energy parameters accounting for April 2012
/13/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057594.
/14/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057619.
/15/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057592.
/16/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057582.
/17/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057605.
/18/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057607.
/19/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057602.
/20/ Photo. Active (reactive) energy meter EA05RAL-B-4 reg.№01057581.
/21/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in January 2011.
/22/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in February 2011.
/23/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in March 2011.
/24/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in April 2011.
/25/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in May 2011.
/26/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in June 2011.
/27/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in July 2011.
/28/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in August 2011.
/29/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in September 2011.
/30/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in October 2011.
/31/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in November 2011.
/32/ Inquiry on amount of water passed through Dniprodzerzhynsk HPP in December 2011.

/33/ Photo. Kaniv HPP. General view.
/34/ Calibration certificate for measuring device №11-157. Kit reg.№835205-001. Actual until 12.10.2012.
/35/ Calibration certificate for measuring device №11-156. Kit reg.№835204-001. Actual until 12.10.2012.
/36/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184667. July 2008.
/37/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184690. July 2008.
/38/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184669. July 2008.
/39/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184692. July 2008.
/40/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184680. July 2008.
/41/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184682. July 2008.
/42/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184670. July 2008.
/43/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184694. July 2008.
/44/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184668. July 2008.
/45/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184672. July 2008.
/46/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184683. July 2008.
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/48/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184684. July 2008.
/49/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184666. July 2008.
/50/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184679. July 2008.
/51/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184687. July 2008.
/52/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184688. July 2008.
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/54/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184754. July 2008.
/55/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184686. July 2008.
/56/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184755. July 2008.

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/59/ Acceptance certificate for electric power meter A1805RAL-P4G-DW-4 reg.№01184677. July 2008.
/60/ Calibration certificate for measuring device №10-184. Kit reg.№835204-001. Actual until 21.09.2011.
/61/ Calibration certificate for measuring device №10-185. Kit reg.№835205-001. Actual until 22.09.2011.
/62/ Photo. Electric power meter A1805RAL-P4G-DW-4 reg.№01184682.
/63/ Photo. Electric power meter A1805RAL-P4G-DW-4 reg.№01184680.
/64/ Photo. Electric power meter A1805RAL-P4G-DW-4 reg.№01184692.
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/83/ Photo. Electric power meter A1805RAL-P4G-DW-4 reg.№01184673.
/84/ Photo. Electric power meter A1805RAL-P4G-DW-4 reg.№01184667.
/85/ Photo. Electric power meter A1805RAL-P4G-DW-4 reg.№01184677.
/86/ Photo. UkrGidroEnergo. Administration building.
/87/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01048643. July 2001.
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/91/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01057701. February 2002.
/92/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01057713. February 2002.
/93/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01050110. September 2001.
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/95/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01057736. February 2002.
/96/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01054487. November 2001.
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/101/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01048641. July 2001.
/102/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01057662. February 2002.
/103/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01057790. February 2002.
/104/ Acceptance certificate for electric power meter 05RAL-B-3

reg.№01057698. February 2002.
/105/ Acceptance certificate for electric power meter 05RAL-B-3 reg.№01057599. February 2002.
/106/ Statement of electric power meter replacement at point G-8 of Kyiv HPP dated 07.12.2011.
/107/ Inquiry №04/13 on each 10 days water consumption and electricity generation in December 2011 dated 04.01.2012
/108/ Inquiry №4/2673 on each 10 days water consumption and electricity generation in November 2011 dated 06.12.2011
/109/ Inquiry №04/2591 on each 10 days water consumption and electricity generation in October 2011 dated 18.11.2011
/110/ Inquiry №04/2354 on each 10 days water consumption and electricity generation in September 2011 dated 09.10.2011
/111/ Inquiry №04/2208 on each 10 days water consumption and electricity generation in August 2011 dated 02.09.2011
/112/ Inquiry №04/2084 on each 10 days water consumption and electricity generation in July 2011 dated 04.08.2011
/113/ Inquiry on each 10 days water consumption and electricity generation in June 2011
/114/ Inquiry №04/842 on each 10 days water consumption and electricity generation in May 2011 dated 02.06.2011
/115/ Inquiry №04/638 on each 10 days water consumption and electricity generation in April 2011 dated 04.05.2011
/116/ Inquiry №04/469 on each 10 days water consumption and electricity generation in March 2011 dated 04.04.2011
/117/ Inquiry №04/315 on each 10 days water consumption and electricity generation in February 2011 dated 02.03.2011
/118/ Inquiry №04/166 on each 10 days water consumption and electricity generation in January 2011 dated 03.02.2011
/119/ Verification certificate for measuring device №39-03-0640 dated 18.04.2011
/120/ Verification certificate for measuring device №39-03-0639 dated 18.04.2011
/121/ Photo. Electric power meter 05RAL-B-3 reg.№01057698
/122/ Photo. Electric power meter 05RAL-B-3 reg.№01057700.
/123/ Photo. Electric power meter 05RAL-B-3 reg.№01057662.
/124/ Photo. Electric power meter 05RAL-B-3 reg.№01048641.
/125/ Photo. Electric power meter 05RAL-B-3 reg.№01057599.
/126/ Photo. Electric power meter 05RAL-B-3 reg.№01057732.
/127/ Photo. Electric power meter 05RAL-B-3 reg.№01057689.
/128/ Photo. Electric power meter 05RAL-B-3 reg.№01054488.
/129/ Photo. Electric power meter 05RAL-B-3 reg.№01057685.
/130/ Photo. Electric power meter 05RAL-B-3 reg.№01054487.
/131/ Photo. Electric power meter 05RAL-B-3 reg.№01057736.
/132/ Photo. Electric power meter 05RAL-B-3 reg.№01042843.
/133/ Photo. Electric power meter 05RAL-B-3 reg.№01050110.
/134/ Photo. Electric power meter 05RAL-B-3 reg.№01057713.

/135/ Photo. Electric power meter 05RAL-B-3 reg.№01057701.
/136/ Photo. Electric power meter 05RAL-B-3 reg.№01042844.
/137/ Photo. Electric power meter 05RAL-B-3 reg.№01057659.
/138/ Photo. Electric power meter 05RAL-B-3 reg.№01057740.
/139/ Photo. Electric power meter 05RAL-B-3 reg.№01048643.

Persons interviewed:

List persons interviewed during the verification or persons that contributed with other information that are not included in the documents listed above.

/1/ Aleksandr Chupryna – head of OPS, Kyiv HPP.
/2/ Viktor Kozyk – wireman, Kyiv HPP.
/3/ Aleksandr Tsyganok – engineer, Dniprodzerzhinsk HPP.
/4/ Sergey Tkachenko – shift foreman of electroworkshop, Dniprodzerzhinsk HPP.
/5/ Sergey Proskurin – shift foreman of station, Dniprodzerzhinsk HPP.
/6/ Olena Kostyuk – head of PTS, Dniprodzerzhinsk HPP.
/7/ Olena Gorina – economist, Dniprodzerzhinsk HPP.
/8/ Yuriy Vintsuk – head of OPS, Dniprodzerzhinsk HPP.
/9/ Vadim Medieshi – director, Dniprodzerzhinsk HPP.
/10/ Vadym Horbenko – engineer, Kaniv HPP
/11/ Vasyl Siryk – engineer-metrologist, Kaniv HPP
/12/ Volodymyr Laskarevskyi – JI and CDM projects Consultant, Mitsubishi UFJ Morgan Stanley Securities

APPENDIX A: VERIFICATION PROTOCOL

VERIFICATION PROTOCOL

Check list for verification, according to the JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The project has been approved by both Host Party (Ukraine) and Sponsor Party (The Netherlands). The written project approvals were issued by NFPs of the Parties involved (see chapter 7 References of the Verification Report).	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	Corrective Action Request (CAR) 01. Please provide the explanation why rehabilitation of only 24 of 34 planned HPUs was conducted. Will rehabilitation be conducted for other 10 HPUs? Clarification Request (CL) 01. Tables in the MR are numbered partly. Please provide the numbers for all Tables of the MR (see Table on p.1).	CAR 01 CL 01	OK OK
93	What is the status of operation of the	The project was operational for the whole	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	project during the monitoring period?	monitoring period.		
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	Clarification Request (CL) 02. In section 2.1 it was mistakenly stated that version of Tool to calculate the emission factor for an electricity system is 1.01. Actually, the version of the Tool is 1.1. Please correct.	CL 02	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	Yes. The key factors, e.g. those listed in 23 (b) (i)-(vii) of the DVM check list, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account for calculating the emission reductions.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	Corrective Action Request (CAR) 02. Please, in the Monitoring Report provide the explanation for the abbreviations (such as HPP, OM).	CAR 02	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and	All the emission factors, including default emission factors are used in line with the registered PDD and the determined revisions of the monitoring plan provided in the Verification Report for 2008. In order to calculate the emissions from each fuel type, the most recent submission of the Ukrainian	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	appropriately justified of the choice?	National GHG Inventory was used.		
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	Yes, the calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.	OK	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	N/A	OK	OK
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/A	OK	OK
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/A	OK	OK
98	If the monitoring is based on a monitoring plan that provides for	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?			
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	The monitoring was occurred in accordance with the registered monitoring plan and the determined revisions of the monitoring plan listed in the Verification Report for 2008. No deviations were detected by the verification team during the site-visit.	OK	OK
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	N/A	OK	OK
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality	The detailed description of the data collection procedures is included in the MR. The data collection is performed in accordance with the	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	control and quality assurance procedures?	monitoring plan in the determined PDD.		
101 (b)	Is the function of the monitoring equipment, including its calibration status, in order?	The procedure of the electricity meters calibration was found satisfactory. Each meter was calibrated in accordance with the Ukrainian national standards. The documented evidences were checked onsite. All confirmatory documentation on level meters calibration was checked onsite. The documental evidences were found satisfactory.	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Clarification Request (CL) 03. Please clarify what kind of documentation is kept for two years after the last transaction of ERUs. Please also adjust the corresponding instruction and bring it to notice of personnel.	CL 03	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system is completely in accordance with the original monitoring plan and the determined changes.	OK	OK
Verification regarding programmes of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/A	OK	OK
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/A	OK	OK
103	Does the verification ensure the accuracy and conservativeness of the	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions or enhancements of removals generated by each JPA?			
104	Does the monitoring period not overlap with previous monitoring periods?	N/A	OK	OK
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	N/A	OK	OK
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: − The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/A	OK	OK
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	N/A	OK	OK
109	Is the sampling plan available for	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	submission to the secretariat for the JISC ex ante assessment? (Optional)			
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	N/A	OK	OK

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarification and corrective action requests by verification team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
Corrective Action Request (CAR) 01. Please provide the explanation why rehabilitation of only 24 of 34 planned HPUs was conducted. Will rehabilitation be conducted for other 10 HPUs?	92	The delay in the reconstruction of HPU from 2006 to 2012 occurred due to the following reasons: - Shortage of funding on UHE side in the period 2009 - 2012; - Delays in the supply of equipment by manufacturers; - The need for additional rehabilitation works identified at several HPUs, mainly due to the extensive operational time of the equipment.	Issue is closed based on the appropriate explanation provided by project developers.
Corrective Action Request (CAR) 02. Please, in the Monitoring Report provide the explanation for the abbreviations (such as HPP, OM).	95 (b)	The abbreviations were spelled out and a list of abbreviations was added to the updated Monitoring Report.	Monitoring report was checked, issue is closed.
Clarification Request (CL) 01. Tables in the MR are numbered partly. Please provide the numbers for all Tables of the MR (see Table on p.1).	92	The corresponding corrections were made in the updated Monitoring Report.	CL is closed based on the corrections made in the MR.

Clarification Request (CL) 02. In section 2.1 it was mistakenly stated that version of Tool to calculate the emission factor for an electricity system is 1.01. Actually, the version of the Tool is 1.1. Please correct.	94	The requested changes were made and the version was corrected to 1.1. in the updated Monitoring Report.	Issue is closed.
Clarification Request (CL) 03. Please clarify what kind of documentation is kept for two years after the last transaction of ERUs. Please also adjust the corresponding instruction and bring it to notice of personnel.	101 (c)	The revised instruction for data keeping is provided to the DOE for review.	The revised instruction for data keeping was found appropriate by the verification team. The evidence that the instruction was braught to notice of the personnel was submitted. Issue is closed.